LEWS NEWS

Photo: Angela Boyer, USFWS

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Protecting Lake Erie's Natural Heritage

Welcome back to the third year of LEWS News, the Lake Erie water snake Newsletter! Many exciting water snake related activities have taken place over the past several years, and many more things are planned for this season. From poetry contests, to Save our Snakes signs, to this newsletter, the U.S. Fish and Wildlife Service and Ohio Department of Natural Resources, Division of Wildlife continue to strive to educate island residents and visitors about the status and life history of the Lake Erie water snake.

Current Events: The LEWS study will be wrapping up its third and final year of telemetry this summer. From this study we are gaining valuable information about the hibernation and movement patterns of the LEWS, which will enable us to better understand its habitat needs and make more accurate recommendations on how to protect the snake.

The staff of the U.S. Fish and Wildlife Service would like to introduce our new supervisor, Dr. Mary Knapp, and welcome her to Ohio! Mary comes to us from the Fish and Wildlife Service's Arcata, California Field Office where she was the deputy Project Leader. In Arcata, Mary worked on implementation of the Headwaters HCP, snowy plover recovery, and Klamath and Trinity River salmon and instream flow issues. Mary has also worked in the Fish and Wildlife Service's Corpus Christi, Texas Field Office and for the Forest Service in New Mexico and in its Washington, D.C. headquarters.

Mary is a self-proclaimed fish biologist but admits to catching ribbon snakes while sampling for crappie as part of her master's degree work in Oklahoma. "I look forward to spending time on the islands and getting to know the people and the land."

This year will bring forth many exciting developments for the water snake, including the development of a LEWS Recovery Plan. We would like to take this opportunity to thank all of our island partners for helping to conserve this unique species.

Radiotelemetry Reveals much about Lake Erie Water Snakes

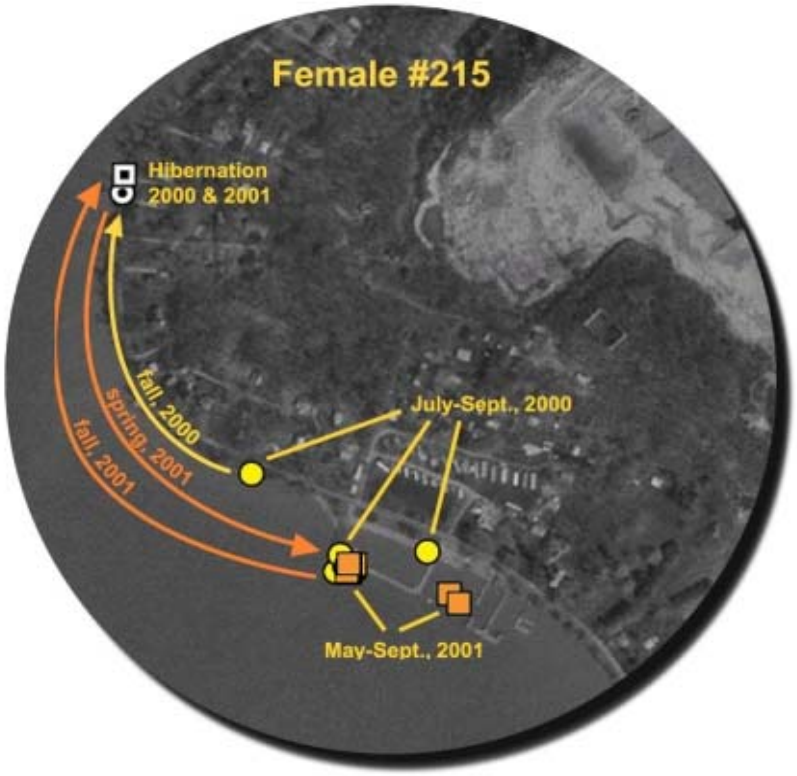
***Movements and Hibernation Sites.* –** Researchers from Northern Illinois University have surgically implanted radio transmitters in 56 adult Lake Erie water snakes (20 in 2000 and 36 in 2001) on five Ohio islands. Using a receiver and directional antenna, these animals have been monitored throughout the summer and during winter hibernation. This work has revealed the following information about Lake Erie water snakes:

- Lake Erie water snakes are generally active from the beginning of May to the end of September and hibernate from October through April.
- Lake Erie water snakes remain near shore during the summer active season and are rarely found more than about 20 meters (m) (65 ft) inland.

- The extent of shoreline used by Lake Erie water snakes during the summer active season ranges from 70 – 1360 m (230 ft – 4,500 ft) and averages about 250 m (820 ft).
- Some hibernation sites used by Lake Erie water snakes are directly inland from shoreline areas used in the summer; others are well removed from summer active areas.
- Some hibernation sites used by Lake Erie water snakes are close to shore; others are well inland. The average distance from hibernation site to shore is about 34 m (110 ft); the maximum is about 580 m (1,900 ft).
- Most Lake Erie water snakes hibernate in natural or semi-natural areas with soil and rock substrates. However, some hibernation sites are in or near human-made structures including stone building foundations, drainage tile, and concrete shoreline protection, patios, and walls.
- Lake Erie water snakes use the same winter hibernation sites and summer active areas year after year (movements between areas of summer activity and winter hibernation for one snake are shown in the adjoining figure).
- Construction setbacks (e.g., 125 ft on Kelley's Island) should reduce the impact of development on Lake Erie water snakes during the summer active season. However, such setbacks may only partly prevent loss of winter hibernation sites.

Ongoing Research. – Hibernating Lake Erie water snakes are being monitored during the winter to obtain information on body temperature. More intensive fieldwork will begin in April as snakes emerge from hibernation. Batteries powering the transmitters in some snakes are expected to fail during 2002, but others should continue to function through spring, 2003, thus providing additional information on movements and hibernation.

--Dr. Rich King, Northern Illinois University



Movement patterns and hibernation sites of Lake Erie water snake female #215 during 2000 and 2001. This female spent the summer of 2000 in and around docks on the southwest shore of Kelley's Island. In September, she moved to a hibernation site located about 500 m away on the west side of the island. She remained there through April 2001 and returned to the docks where she spent the previous summer in early May. She spent the summer of 2001 at this location. Again in September 2001, she moved to a hibernation site on the west side of the island – within about 10 m of where she hibernated in 2000!

Lake Erie water snake up close and personal. Photo: Kristin Stanford, Northern Illinois University

Planning Construction? Read This!

The more we learn about Lake Erie water snakes, the more we realize that the range of their habitat includes most of the inland and shoreline portions of the islands. LEWS typically use the shoreline during the summer, and when winter arrives, they move toward the interior of the island to hibernate where they are protected from severe weather. If you are planning a construction project on your island property, you are obligated to avoid harming or killing the LEWS because it is a protected species. To be sure that you avoid harming the snake and to prevent project delays due to snake issues, we request that you contact our office as early as possible when planning for your project. Typically, we are interested in the following: 1) what type of project you are completing, 2) where the project is located on the island, 3)what type of habitat is currently present on the project site, 4) and how long you expect the project to take. By providing this information to our office, we can evaluate the project and determine if it will have impacts on the LEWS or its habitat. In general, the Service seeks to help residents design and implement their project such that it will not harm the LEWS. We do not try to stop development or prevent people from completing construction projects. We do provide time and temperature guidelines for construction projects in areas that may support LEWS so that these projects can be completed at times of the year when water snakes would not be in the area.

An example of projects that our office is commonly contacted about are new docks. In general, the Service recommends that new docks utilize wood or steel crib designs that create summer snake habitat within the interior of the structure. We also consider floating docks to be acceptable on the islands, as a more affordable alternative to the typical crib dock. When we review dock proposals, we request that no excavation occur from November 1 to May 1, when the snakes are hibernating. During hibernation, the snakes are unable to respond to changes in their environment and, if disturbed, will usually die. Excavation may occur from May 2 to October 31, when temperatures exceed 65 degrees Fahrenheit. These warm season temperatures allow the snakes to be active enough to move away from danger.

The Service seeks your help in protecting the Lake Erie water snake and completing projects in the most resource-friendly way. Early contact with resource agencies can ensure timely completion of your project, and can ensure that you have any permits that you may need. Please contact any of the following agencies for more information on Lake Erie water snakes and construction projects:

U.S. Fish and Wildlife Service, Reynoldsburg, OH
(614) 469-6923
Ohio Division of Wildlife, Columbus, OH
(614) 265-7047,
Ohio Division of Wildlife , Sandusky, OH
(419) 625-8062
U.S. Army Corps of Engineers, Buffalo, NY
(716) 879-4329

—Megan Sullivan, Wildlife Biologist, USFWS

Conserving Endangered and Threatened Species on Private Lands: HCP's and SHA's

Habitat Conservation Plan
The Issue: You are planning to develop private land which happens to be inhabited by Federally endangered or threatened species. During development, you may run a risk of harming or killing protected species or disturbing their habitat. The Endangered Species Act (ESA), states that you cannot "take" Federally listed endangered and threatened species. "Take" means you cannot harm or kill them, or attempt to do so, and also means you cannot destroy their habitat. So what can you do?

By working with the U.S. Fish and Wildlife Service (Service), you can develop a Habitat Conservation Plan (HCP) which allows development with minimal impact to endangered or threatened species. Upon

approval of an HCP, you can receive an incidental take permit, which allows a low level of take of a listed species, as long as the take is incidental to, and not the purpose of, an otherwise lawful activity.

When an HCP is prepared, it should outline how much take would occur due to the proposed activity, and the steps that would be taken to minimize and mitigate these impacts. Once submitted, the Service asks two questions of the HCP:

1). Does the plan minimize and mitigate take to the maximum extent practicable?

2). Is the level of take low enough so that it will not jeopardize the continued survival and recovery of the species?

If the answer to both questions is yes, the HCP may be approved, and you may proceed with your project.

Safe Harbor Agreement

The Issue: You're hoping to improve your private land with some pretty nifty conservation measures. These "beneficial actions" include enhancement, restoration, or maintenance of habitat, and may in turn, attract endangered or threatened species to your property or increase the numbers of these species that were already there. With the increased numbers, there's increased risk of take, and thus, how do you get out of that liability?

Once again, by working with the Service, you can abide by the law and develop a solution, which is a Safe Harbor Agreement (SHA). Through this agreement, you will gain assurances that additional conservation measures will not be required and additional land, water, or resource use restrictions will not be imposed should listed species increase in number due to your conservation measures. With an approved SHA, "incidental take" is permitted through the issuance of an "enhancement of survival permit," as long as the population does not drop below the numbers present at the start of the project.

Does the public get to comment on HCPs and SHAs? How do public comments affect an HCP or SHA?

The ESA requires a minimum 30-day period for public comment on the application for an incidental take permit (HCP) and/or an enhancement of survival permit (SHA). Additionally, the National Environmental Protection Act (NEPA) must also be considered when developing an HCP or SHA. NEPA requires public comment on certain NEPA documents, and the Service conducts these two comment periods concurrently. Therefore, the Service must consider public comments in the permit decision.

For additional information, visit the following websites or contact the Reynoldsburg, OH Field office at (614) 469-6923.

http://endangered.fws.gov
http://endangered.fws.gov/landowner/index.html
http://endangered.fws.gov/hcp/hcpplan.html

--Myra Miyoshi, Fish and Wildlife Biologist, USFWS

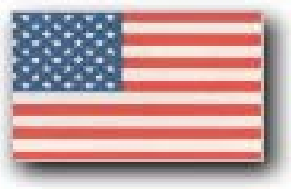
LEWS Recovery Planning

The U.S. Fish & Wildlife Service (Service), in conjunction with the Ohio Department of Natural Resources, Division of Wildlife and researchers from Northern Illinois University will begin work on the Lake Erie water snake Recovery Plan this summer. The Endangered Species Act (ESA) requires that a recovery plan be developed and implemented for most species of plants and animals listed as endangered or threatened–the LEWS is no exception. The recovery plan will outline, justify, and schedule the research and management actions necessary to recover the LEWS. Recovery is the process by which the decline of an endangered or threatened species is arrested or reversed, and threats to its survival are neutralized, so that its long-term survival in nature can be ensured. If successfully undertaken, the actions listed in the recovery plan will eventually lead to delisting of the LEWS. Research completed on the islands to date will be extremely valuable in the

creation of the recovery plan.

The contents of a recovery plan may vary among species, but all plans must address four items: 1) site specific management actions as may be necessary to conserve and recover the species; 2) an estimated time-frame to accomplish recovery; 3) an estimated cost of the complete recovery of the species; and 4) precise, measurable criteria or research needs that will allow the Service and others to objectively determine when recovery has been achieved.

In addition, before a recovery plan is approved, it must go through a public review period. Any relevant comments received during the established public comment period will be considered and must be addressed in the final plan.



In addition to U.S. efforts to recover the LEWS, Canadian wildlife officials will begin work on their LEWS Renew Plan this year. The renew plan is similar to a recovery plan in the U.S. The LEWS is an endangered species in Canada, and occurs on Pelee, Middle, East Sister, and Hen Islands. Telemetry research on Pelee and E. Sister Islands, very similar to the research on U.S. islands, is being used to determine behavior patterns, hibernation sites, and eventually population estimates on the Canadian islands. This information will be incorporated into the LEWS Renew Plan. The U.S. and Canadian wildlife officials will coordinate information gained through the studies and will work together to develop both the Recovery and Renew Plans to ensure recovery of the LEWS on an international scale.

--Megan Sullivan, Wildlife Biologist, USFWS

LEWS News Online!

Even Lake Erie water snakes are keeping up with technology! Current and back issues of LEWS News are now available on the internet! These issues (with full color pictures!) can be read and downloaded from the Fish and Wildlife Service's Reynoldsburg, Ohio Field Office webpage, located at: http://midwest.fws.gov/Reynoldsburg/

LEWS online is available in "pdf" format, which utilizes the free Adobe Acrobat viewer. The latest version of Adobe Acrobat can be downloaded for free at: http://www.adobe.com/products/acrobat/readstep2.html

Check us out online and let us know what you think! Email questions or comments to Megan_Sullivan@fws.gov.

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A Lake Erie water snake head emerges from the water to check for predators. Photo: Melissa Hathaway, ODNR, Division Of Wildlife

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